

Amendments to the Specification:

Please replace paragraph [0030] beginning near the bottom of page 8 with the following rewritten paragraph:

One advantage of the invention is that instead of utilizing complex logic to direct microfluidic device handling systems, the methods described herein implement simple logic to locate selected material sites, then more simple logic to delete visited materials sites from inputted search lists before continuing on to other selected sites. In particular, the methods and devices of the invention utilize simple logic control ~~logic~~-programs or algorithms to direct and optimize the processing of arrayed materials. A “simple logic control ~~logic~~-program,” as used herein, refers to a procedure, or a sequence of coded or computational instructions, for achieving a solution to a problem or for accomplishing some end based upon a Boolean system of symbolic logic, in which the opening and closing of electronic switches represent the truth values 1 (true) and 0 (false) and functions (i.e., Boolean operators), such as, AND, OR, NOT, or the like. For example, the binary AND of, e.g., two bits x and y is true only if both x and y are true, i.e., 1. Otherwise the result is false. By comparison, the binary OR of, e.g., two bits x and y is false, unless either x or y, or both is/are true, i.e., 1.

Please replace paragraph [0031] beginning near the top of page 9 with the following rewritten paragraph:

The simple logic control ~~logic~~-programs of the present invention eliminate problems associated with controlling sampling patterns of microfluidic devices using robotic handling systems when both array formats and capillary element configurations are variable (e.g., in multiple dimensions). In overview, the algorithms represent each material site (e.g., a well on a microwell plate, etc.) as a flag. To process an array, such as a microwell plate, the program searches for the first flag not set (i.e., those flags corresponding to user selected materials sites) and directs the robotic handling system to visit that material site. The program then sets or updates all of the flags corresponding to the material sites visited by the capillary elements of the

particular microfluidic device. The program then resumes searching for the next flag not set. Optionally, the invention includes instruction sets that direct microfluidic device handling systems to reduce fluid carryover from one material site to another, e.g., by including intervening visits to recirculation/replenishing baths or troughs or the like. This process of searching and updating is repeated until all flags not set for a given array are visited.

Please replace paragraph [0039] beginning near the bottom of page 12 with the following rewritten paragraph:

The simple logic control program of the invention generally optimizes a course for selectively contacting (e.g., sampling or drawing material from the material site) the capillary element and the material at the selected material site. For example, the simple logic control program includes an instruction set for causing the computer to effect movement of the microfluidic device to the selected material site, to effect movement of the array relative to the microfluidic device, or both; an instruction set for causing the computer to effect contact of the capillary element and the material at the selected material site; and an instruction set for causing the computer to effect deselection of the selected material site following (ii). The simple logic control ~~logic-control~~ program also typically includes an instruction set for causing the computer to effect drawing of selected quantities or volumes of the material from the selected material site during (ii).